

REMARKS

Applicant thanks the Examiner for the phone interview conducted on January 8, 2008, in which the pending claims have been discussed. In this Amendment, the claims have been amended in accordance with the discussion during the phone interview.

Applicant respectfully requests consideration of the subject application as amended herein. This Amendment is submitted in response to the Office Action mailed November 1, 2007. Claims 23-47 stand rejected. In this Amendment, claims 23, 27-30, 33-41 and 43-46 have been amended. Claims 48-53 have been added. No new matter has been added. Claim 31 has been canceled without prejudice.

35 U.S.C. §101

The Examiner has rejected claims 33-40 under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Claims 33-40 have been amended. Applicant respectfully requests that the Examiner remove his rejection under 35 U.S.C. § 101.

35 U.S.C. §112

The Examiner has rejected claims 23-47 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 23-47 have been amended. Applicant respectfully requests that the Examiner remove his rejection under 35 U.S.C. § 112.

35 U.S.C. §103

Claims 23, 24, 26-30, 33-39 and 41-46 are rejected under 35 U.S.C. §103(a) as being unpatentable over Arnow, (“:-) When you grade that: using e-mail and the network in programming courses,” hereinafter “Arnow”), in view of prior art of record Heckel, (“Technique for Isolating Differences Between Files,” hereinafter “Heckel”). Claims 25, 31, 32, 40 and 47 are rejected under 35 U.S.C. §103(a) as being unpatentable over Arnow and Heckel, as applied to claim 1 above, and further in view of prior art of record Clough (“Plagiarism in natural and programming languages; an overview of current tools and technologies,” hereinafter “Clough”).

Arnow discloses comparing program elements sorted by line length using the diff utility in Unix. Contrary to the presently claimed invention, the diff utility performs the comparison to find *different* program elements *using the order of code lines* that exists during the comparison. In the presently claimed invention, in contrast, the comparison is performed to find *similar* program elements, *regardless of the order of code lines* that exist during the comparison, and *independently of common sequences of program elements* in the two arrays being compared. Furthermore, Arnow does not teach or suggest calculating a similarity number based on the similar program elements, and presenting to a user an indication of plagiarism, where the indication of plagiarism is defined by the calculated similarity number, as required by the presently claimed invention.

Heckel does not help Arnow to render the presently claimed invention unpatentable. Heckel discloses an algorithm that isolates the differences between two files. The algorithm isolates the differences by finding similarities until only differences remain. The similarities are determined by finding a line that occurs in both files, and then looking for consecutive subsequences of identical lines in both files (Heckel, page 265, Section 3). These steps are repeated until no more similarities exist in the two files. Accordingly, the comparison in Heckel

is performed based on common sequences of lines in the two files. In the presently claimed invention, in contrast, the comparison is performed independently of common sequences of program elements in the two arrays being compared. Furthermore, Heckel does not teach or suggest calculating a similarity number based on the similar program elements found by the above comparison, and presenting to a user an indication of plagiarism, where the indication of plagiarism is defined by the calculated similarity number, as required by the presently claimed invention. Thus, Heckel lacks the same features of the presently claimed invention that are missing from Arnou. These features of the present invention are included in the following language of claim 23:

... comparing the program elements from the first array with the program elements from the second array to find similar program elements, the comparison being performed between individual program elements regardless of an order of code lines containing the program elements in the first array and the second array during the comparison, the comparison being independent of common sequences of program elements in the first array and the second array;
calculating a similarity number based on the similar program elements; and
presenting to a user an indication of plagiarism with respect to at least one of the first program source code file and the second program source file, wherein the indication of plagiarism is defined by the similarity number.

Similar language is also included in claims 33 and 41. Thus, Arnou and Heckel, taken alone or in combination, do not teach or suggest the present invention as claimed in claims 23, 33 and 41, and their corresponding dependent claims.

With respect to Clough, it lacks the same limitations that are missing from each of Arnou and Heckel. Accordingly, the cited references, taken alone or in combination, do not teach or suggest the present invention as claimed in claims 23, 33 and 41 and their corresponding dependent claims. Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. §§103(a), and submits that the pending claims are in condition for allowance.

DEPOSIT ACCOUNT AUTHORIZATION


Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Marina Portnova at (408) 720-8300.

Respectfully submitted,

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